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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,524	01/03/2001	Kazuyuki Nishi	44084-484	9990

7590 01/20/2004
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EXAMINER

KORNAKOV, MICHAEL

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,524

Applicant(s)

NISHI, KAZUYUKI

Examiner

Michael Kornakov

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,9,10,12,13 and 15-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-8,11 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-18 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 6, 7 and 8 have been amended to overcome rejections under 35 USC 112, first and second paragraphs. Rejections under 35 USC 112, first and second paragraphs are withdrawn. By the present amendment the scope of claims 6-8 has been significantly changed by the following:

- Identifying the hydrocarbon solution as one used in a non-aqueous washing step, while initially it was claimed to be in an intermediate step;
- Identifying the alcohol as a solvent used in the intermediate washing step, while initially it was wrongly attributed to hydrocarbon used in a non-aqueous washing step.

2. Claims 2, 3, 9, 10, 12, 13 and 15-18 are currently withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected invention/species, claims 1, 4-8, 11 and 14 are examined.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 6 and 14 stand rejected under 35 U.S.C. 102(b) as being anticipated by Nishi (U.S. 5,868,864), which is an English equivalent of JP 9-208995, published 08/1997.

Nishi discloses a method for washing an object, such as an optical element, which steps are best depicted by claims 11 and 17 in col.9, namely: **first**, dipping the object to be washed in a lipophilic (*non-aqueous*) agent, **second**, dipping the object to be washed in an emulsifier **third**, dipping the object to be washed in a detergent, **fourth**, dipping the object to be washed in water. The lipophilic agent in Nishi is ethylene or similar substance (paragraph, bridging col.2 and col.3), which reads on "a non-aqueous hydrocarbon solution " of the instant claims 1 and 6. This anticipates the limitations of the instant claims 1, 6 and 14. The emulsifier and/or detergent of Nishi is the media described in an intermediate step of the instant claim I, i.e. being soluble in aqueous and non-aqueous solutions.

5. Claims 7 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view Sherman "Emulsion Science" (Handbook), Academic Press, 1988 page 150.

Nishi does not specifically recognize the use of alcohol, in particular isopropyl alcohol, in the intermediate washing step as a detergent/surface active agent

However, Nishi discloses the step of washing the optical object in the emulsifier and detergent. This step is used by Nishi for **substituting and replacing the hydrocarbon. (lipophilic) wash with water wash**, therefore, **it is motivated by Nishi**, that such intermediate wash with detergent/emulsifier should contain the compound having solubility in both phases, lipophilic and hydrophilic (see, for example Fig.2, especially col.3, lines 5-11).

Sherman provides Table VI on page 150 of surface active agents having specific values of HLB (hydrophilic lipophilic balance), among which are such alcohols as n-propanol and n-butanol, the compounds having average HLB values. Therefore, a person skilled in the art clearly motivated by the suggestions of Nishi, as to the purpose of substituting wash, would have found it obvious to utilize one of alcohols of Sherman as the detergent/surface active agent of Nishi based on its solubility in both phases. With regard to the iso-propanol of the instant claims, vs. n-propanol, cited in Sherman's Table VI it is noted that these compounds are the only two possible structural isomers of each other, and therefore have the same composition, but different three dimensional arrangement. Structural similarities have been found to support a prima facie case of obviousness. See, e.g., *In re Wilder* 563 F.2d 457, 460, 195 USPQ 426, 429 (CCPA 1977) (adjacent homologs and structural isomers). Therefore, based on essential chemical identity of isopropanol and n-propanol, a person skilled in the art would have obvious that these two compounds provide essentially identical functionality as detergent/surface active agent.

6. Claim 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view of JP 05266412.

Nishi is silent about ultrasonic agitation of a non-aqueous solution, as per claim 11.

Ultrasonic agitation of cleaning liquids, both organic solvents and aqueous solutions, is routinely utilized in cleaning processes, which is evidenced, for example, by

JP'412, that teaches cleaning process for objects dipped into an ultrasonic tank, containing organic solvent, to wash them in the presence of ultrasonic wave and finally to clean with vapor of the organic solvent (See Abstract). Therefore, a person skilled in the art would have found it obvious to utilize the ultrasonic agitation of organic solvent in the non- aqueous step of Nishi in order to enhance the contact of the solvent with the object and, thus, to increase the effectiveness of cleaning.

7. Claims 4 and 5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view of Osano et al (U.S. 5,334,258).

The teaching of Nishi is different from instant claims 4 and 5 by not disclosing the drying step between the intermediate and water washing step.

Osano discloses a washing method of optical article, which is closely related to the method of Nishi and to the instantly claimed method. Practically Osano performs the same steps, and the reference to Osano provides the motivation to utilize the drying step as instantly claimed by teaching that the action of the washing liquid surface tension causes the washing liquid to stay on the object resulting in defective washing, and a reduction of rinsing effect (col.2, lines 35-40). Since Osano and Nishi both disclose analogous cleaning processes of optical parts using similar process steps, a person skilled in the art, motivated by teaching of Osano, would have found obvious to perform drying between the detergent (intermediate) and aqueous steps of Nishi in order to better remove the residues, left after the intermediate step and ensure the effective subsequent rinsing. The skilled artisan would also have reasonably expected

that the use of isopropanol vapor is beneficial for such purpose, since the isopropanol is used in the detergent substitute step of Nishi, and by employing it in the drying step, one skilled in the art would have avoided additional chemicals and therefore additional contaminants in the process, and will thus arrive at the instant claims 4 and 5.

Response to Arguments

8. Applicant's arguments filed October 28, 2003 have been fully considered but they are not persuasive.

9. The crux of Applicants' arguments with regard to 35 USC 102 (b) rejection of claims 1, 6 and 14 is that the first to fourth steps of Nishi correspond to the aqueous washing process or the present invention (Applicants here refer the examiner to their specification) and that Nishi fails to disclose, inter alia, an intermediate washing process of washing the object to be washed using a solution having solubility relative to both an aqueous solution and the non-aqueous solution after said non-aqueous washing process, as required by the instant claim 1. Applicants further argue that although the emulsifier and detergent have a function of emulsification and dispersion, emulsification and dispersion are quite different from dissolution. Applicants resume that given such difference, there is nothing in Nishi that supports the emulsifier and/or detergent of Nishi being a solution having solubility relative to both aqueous solution and the non-aqueous solution (the lipophilic agent).

In response to this, Applicants are first reminded that the identity required for anticipation is between the claimed subject matter and the subject matter disclosed by

the reference; identity does not require the reference to disclose the same subject matter as described in the specification. See Kalman vs. Kimberly Clark Corp. 218 USPQ 781 (Fed. Cir.1983). With this in mind, three steps of the Applicants' claim 1 with the transitional phrase "comprising" is inclusive or open-ended and does not exclude additional, unrecited, even major method steps. See, e.g., Genentech, Inc. v. Chiron Corp., 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997). These steps are expressly recited by Nishi, for example in claim 11, col.9:

first, dipping the object to be washed in a lipophilic (*non-aqueous*) agent (*this step clearly reads on the first step of the instant claim 1*)

second, dipping the object to be washed in an emulsifier

third, dipping the object to be washed in a detergent,

(*these two steps combined or each one individually clearly read on the intermediate washing process of the instant claim 1*)

fourth, dipping the object to be washed in water (*this step clearly reads on an aqueous washing process of the instant claim 1*).

Resuming the above, all three steps of the instant claim 1 are clearly anticipated by Nishi.

With regard to Applicants argument that emulsification is quite different from dissolution, Examiner would like to bring Applicants' attention to Nishi's explanation of the actions of emulsifier and detergent in col.1, lines 15-25.

Degreasing:

a) process for removing greasy stains by dipping the object to be washed in ethylene or a similar substance.

b) Substituting Water System

This is a process for preventing the greasy components (by dissolving them) of the above process of "a. degreasing" from entering a finish washing process as described below by dipping the object to be washed in an emulsifier.

c) Finish Washing

This is a process for removing a hydrophilic stain by dipping the object to be washed in a detergent.

d) Rinsing.

Thus, Nishi explains that emulsifier dissolves the components left from the treatment with lipophilic agent, and the lipophilic (aqueous) agent per se, and the detergent dissolves hydrophilic components, thus having the ability to dissolve aqueous solution.

Furthermore, Applicants attention is drawn to the dictionary definition of detergents, and emulsifiers (provided along with the present communication for Applicants convenience), wherein both detergents and emulsifiers are embraced under the definition of surface active agents that reduce the surface tension when dissolved in water or water solutions and/or reduces the surface tension between two (nonaqueous) liquids. Therefore, the step of dipping the object to be washed in emulsifier and detergent solution in Nishi clearly anticipates the step of the instant claim 1, wherein the solution having solubility relative to aqueous and nonaqueous solution is used.

Applicants are also reminded that a reference anticipates a claim, if it discloses the claimed invention such that a skilled artisan could take this teaching in combination with his own knowledge of the particular art and be in possession of the invention, as per *In re Graves*, 36 USPQ 2d 1697 (Fed. Cir. 1995), or *In re Sasse*, 207 USPQ 107 (CCPA 1980) and that the disclosure in a reference must show the claimed elements arranged as in the claim, but need not be in identical words as used in the claim to be anticipatory. *In re Bond*, 15 USPQ 2d 1566 (Fed. Cir. 1990).

10. Applicants arguments with regard to 35 USC 103(A) rejection of claims 7 and 8 resides in contention that

a) the primary reference to Nishi does not disclose the step of intermediate washing.

This argument was in details addressed above in § 9.

b) that the secondary reference to "Emulsion science" does not provide a motivation to provide an intermediate washing step allegedly missing in Nishi.

In response to this, it is noted that in no way the Examiner applied the secondary reference to remedy the absence of step in Nishi, because such step is present, and is, therefore, anticipated by Nishi, as discussed above. The reference to "emulsion science" was applied to show, alcohols and, in particular, isopropyl alcohol, are used in order to ensure the sufficient HLB (hydrophilic/lipophilic balance- in other words, dissolution in both aqueous and non-aqueous solution) as species of significantly large genus of emulsifiers/detergents. Such analysis is set forth in MPEP § 2144.08.

11. Applicants argument with regard to 35 USC 103(a) rejection of claim 11 over Nishi in view of Morita resides in contention that the primary reference to Nishi does not disclose the intermediate washing step. This argument was addressed in details in § 9 above. The next argument is that Morita does not utilize the intermediate washing step, and therefore cannot be combined with Nishi. This is not found persuasive, because the intermediate washing step is fully disclosed in Nishi, and Morita is only used to show how the ultrasonic vibration (stirring of liquids) of Morita can benefit the process of Nishi. The motivation to do so is presented in § 6 of the present Office Action.

12. The crux of Applicants' argument with regard to 35 USC 103(a) rejection of claims 4 and 5 over Nishi in view of Osano appears to hinge on the same statement that Nishi does not provide for an intermediate washing step. The discussion of such presented in § 9 is incorporated herein in its entirety. Applicants further argue that the drying step of Osano is not between the intermediate step and aqueous step. IN response to this it is noted that had the Osano reference provided the drying step in between intermediate and washing steps, as instantly claimed, the reference to Osano would have served as a 102 reference, not a 103 reference as presently applied. It is further noted that Osano provides a clear motivation to perform the drying step as done in the instant claims. This motivation is presented in § 7 of the present Office Action. And it is further noted that selection of any order of performing steps is prima facie obvious in the absence of a new and unexpected results. Consult *In re Burnhans*, 154F.2d690, 69 USPQ 330 (CCPA 1946). Consult also *Ex parte Rubin*, 128 USPQ 440 (Bd.App.1959), therefore, lacking showing of criticality of performing steps of claims 4

and 5 in the claimed order it is obvious to select any order with the reasonable expectation of success.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is 571 272 1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571 273 1303. The fax phone number for the organization where this application or proceeding is assigned is (703) 872 9310.

Art Unit: 1746

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 2450.

M. Kornakov

1/7/04

Michael Kornakov
Examiner
Art Unit 1746